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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,704	05/17/2007	Leonardo Jose S Aquino	F7785(V)	4392

201 7590 04/08/2009

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EXAMINER	
KRAUSE, ANDREW E	
ART UNIT	PAPER NUMBER
1794	

MAIL DATE	DELIVERY MODE
04/08/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/576,704	AQUINO ET AL.	
	Examiner	Art Unit	
	ANDREW KRAUSE	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *6/28/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 1 is objected to because of the following informalities: It is suggested to change 'not soluble' to 'insoluble' in section (c). In section (d), 'of the insoluble fruit fibers' should be changed to 'of insoluble fruit fibers'. Appropriate correction is required.

2. Claim 5 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

3. Claim 7 objected to because of the following informalities: 'emulsifyier' should be changed to 'emulsifier'. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claim 1 recites the limitation 'partially' in line 4. The term "partially" in claim 1 is a relative term which renders the claim indefinite. The term "partially" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

7. Claim 1 recites the limitation, '…droplets present are less than 10.0 microns'. Applicant is advised to insert 'in diameter' following 'microns' to clarify the scope of the claim.

8. The terms "coarse" and "smooth" in claim 10 are relative terms rendering the claim indefinite. The terms "coarse" and "smooth" are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

9. Claim 13 recites the limitation "The food product" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. **Claims 1, 3-11, 13-15** are, rejected under 35 U.S.C. 102(e) as being anticipated by Bialek (US 7,510,737, filed 10/24/03).

12. Bialek discloses an edible emulsion comprising

a. Oil (column 2, lines 15-20)

b. Water (column 2, lines 15-20);

c. A viscosity building emulsifier that is at least about 50% by weight protein, such as milk, soy or egg yolk derived modified phospholipoprotein (column 3, line 66-column 4, line 6).

d. Insoluble fruit fibers in the amount 0.5-1.0% by weight (column 3, lines 30-45) ;

e. Thickener in the form of up to 1% thickening gums (column 6, lines 51-56)

13. wherein the edible emulsion is smooth and at least 85% of the total amount of oil droplets present are less than 8.0 microns (column 4, lines 29-45).

14. The emulsifiers are disclosed to be added with a dairy (cheese) base (Example 2, column 5, line 63-column 6, line 5).

15. **Regarding claim 3**, the edible emulsion contains 7.5-85.0 weight percent oil (column 3, lines 15-24).

16. **Regarding claims 4 and 5**, the insoluble fruit fibers are recovered from each of the claimed fruits or mixtures thereof (column 3, lines 34-37).

17. **Regarding claims 6 and 7**, the viscosity building emulsifier is added in amounts from 0.1-10.0%, and preferably from 1.5-6.5% (column 4, lines 7-11).

18. **Regarding claim 8**, suitable emulsifiers have HLB's over 8.0 (column 3, lines 55-60).

19. **Regarding claim 9**, thickening gums are used (column 6, lines 51-56).

20. **Regarding claims 10 and 11**, a process of making an edible emulsion is provided comprising mixing oil, water, insoluble fruit fiber, emulsifier (column 4, lines 13-15) and thickening gums (column 6, lines 51-60), and recovering a coarse emulsion column 4, lines 20-28), which can be optionally homogenized at a pressure of 35-600 bar and a temperature of 15-70 C to form a smooth emulsion (column 4, lines 29-47).

21. **Regarding claim 13**, examples 1 and 3 disclose producing a mayonnaise product, which can be classified as a dressing, sauce, dip or spread, and examples 2 and 4 disclose producing a filling.

22. **Regarding claim 14**, the produced food products preferably have a viscosity between 4,000-10,000 centipoise (column 6, lines 31-48).

23. **Regarding claim 15**, the product preferably contains less than 0.5% carbohydrates, including starch (column 2, lines 56-61).

Claim Rejections - 35 USC § 103

24. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

25. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

26. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not

commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

27. **Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over Bialek (US 7,510,737, filed 10/24/03) in view of Kharrazi (US 4,434,184).

28. Bialek discloses the product of claim 1, but fails to disclose that the dairy base is one of the claimed dairy products. Bialek discloses using acidified dairy products such as cream cheese (column 5, line 67) as the dairy base.

29. Kharrazi discloses a method for producing a cream cheese replacement which is produced from yogurt (column 2, lines 23-32). It would have been obvious to one having ordinary skill in the art at the time of the invention to replace the cream cheese used by Bialek as the dairy base with a yogurt product as disclosed by Kharrazi, because a yogurt based product is highly nutritious and contains less fat than cream cheese (column 2, lines 23-31).

30. **Claim 12** is rejected under 35 U.S.C. 103(a) as being unpatentable over Bialek (US 7,510,737, filed 10/24/03) in view of Han (US 6,416,797).

31. Bialek discloses the process of claim 12, but fails to disclose carrying out the homogenization in a two-step process. However, Han discloses that a two step

homogenization process is highly effective for use in homogenizing dairy based products (column 10, lines 44-65). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the invention of Bialek by using a two-stage homogenization step, because doing so allows the user to easily achieve the desired final fat globule size (Han, column 6, lines 47-65).

32. **Claims 1-15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Farrer (WO 03/053149) in view of Han (US 6,416,797).

33. NPL 1 ('Surfactants') is cited as evidence.

34. **Regarding claims 1,2 and 10-12**, Farrer discloses producing an edible emulsion by mixing oil, water (p. 3, lines 7-14, p.17, lines 5-10), a thickener (p. 12, lines 30-33), citrus fibers as a cold hydrating viscosity enhancer in an amount of 3-30% by weight of a powder or tablet, which is later added to a variable amount of oil and water(p. 16, lines 4-12), and a caseinate (p. 17, lines 11-15) as a protein based emulsifier. The recovered by adding oil and water to the caseinate containing tablet and mixing (p.17, lines 5-10). It is further disclosed to add the emulsifiers to a dairy base such as cream (p. 18, lines 11-18).

35. Regarding the quantity of citrus fiber added, it is disclosed that the amount of oil and water added to the powder is varied based to provide a spreadable final emulsion;

therefore an amount of citrus fiber present in the final product is obviously adjustable based on the desired thickness of the final product, as the citrus fiber is being used to control the viscosity (p. 17, lines 5-10). An example using a different embodiment of the powder is disclosed in Example 1, wherein 45 g of water and 50 g of oil are added to 10 g of the powdered composition. In such a case, the emulsion would contain 0.28 % citrus fiber if it was present in the tablet in the amount of 3% by weight.

36. The product recovered is a spreadable final emulsion that is coarse since it has not been homogenized. Farrer fails to disclose the size of the oil droplets present in the emulsion. However, Han discloses subjecting emulsified spreadable dairy products to a two stage homogenizing process (column 10, lines 23-57), by shearing at 50 C (column 10, lines 15-22), and pressures of preferably 300 psi (20.5 bar) to 10,000 psi (689 bar) wherein the average particle size of fat droplets is reduced to 0.2- 3 microns. It would have been obvious to one having ordinary skill in the art at the time of the invention to subject the emulsion of Farrer to the homogenization process disclosed by Han, because homogenization stabilizes the emulsion and allows it to remain in an emulsified state(Han, column 10, 25-30). Additionally, Farrer recognizes the benefit of controlling the oil droplet size, as products with smaller average oil droplet sizes are stable upon storage and show reduced sweating (p. 14, lines 18-21).

37. Although the percentage of particles having a specific particle size is not given, it would be obvious to one having ordinary skill in the art that at least 80% of all fat droplets will have a size less than 10 microns if the average size is reduced to 0.2-3 microns by homogenization (Han, column 10, lines 58-65)

38. **Regarding claim 3**, using the ratio of powdered composition to oil and water disclosed in Example 1, about 47.5% by weight of oil is present in the final emulsion.

39. **Regarding claims 4 and 5**, it is disclosed to use citrus fibers but the specific citrus fiber used is not disclosed. However, one having ordinary skill in the food science art would find it obvious to use lemon, lime, orange or grapefruit fiber given the disclosure of citrus fibers by Farrer.

40. **Regarding claims 6 and 7**, the powdered composition disclosed according to claim 1 comprises from 6-60% of emulsifiers as a mixture of (3-30%)lecithin and (3-30%)caseinate. Using the ratio of powder to oil and water disclosed in example 1, the emulsion formed will have 0.57-5.7% of emulsifiers, and 0.285-2.85% viscosity building emulsifier (caseinate).

41. **Regarding claim 8**, sodium caseinate has an HLB of 14 (see NPL 1).

42. **Regarding claim 9**, Farrer discloses using gums as a thickener ((p. 12, lines 30-33).

43. **Regarding claim 13**, the food product produced is a spread (p. 1, background of the invention).

44. **Regarding claim 14**, as disclosed above, Farrer and Han disclose the food product according to claim 13, wherein the food product is produced by mixing oil, water, emulsifiers, thickeners, citrus fiber and a dairy base in the amounts required by the claims, and then homogenizing the emulsion. Farrer is silent regarding the viscosity of the food product produced, but discloses that the product has a spreadable texture. Given that the product of Farrer and Han is produced using the ingredients and methods claimed to yield a product with a spreadable texture as claimed, the product will intrinsically have a viscosity between 500-10,000 centipoise.

45. **Regarding claim 15,** a tablet according to the invention of Farrer (p. 16, lines 4-14) contains no starch when citrus fiber is used as the viscosifying agent.

Conclusion

46. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 5,011,701, EP 0757895 and EP 0477827 are cited as an 'X' references in the international search report, but have not been applied as they fail to disclose using insoluble fruit fibers in the emulsion.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDREW KRAUSE whose telephone number is (571)270-7094. The examiner can normally be reached on 7:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on (571)272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Examiner, Art Unit 1794

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